

FIG. 1

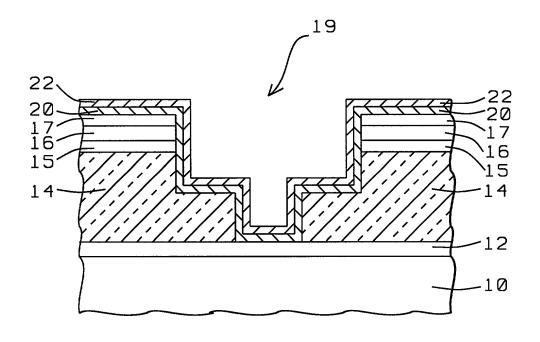


FIG. 2

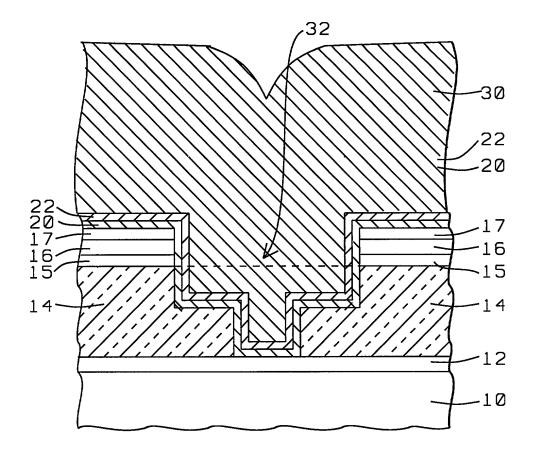
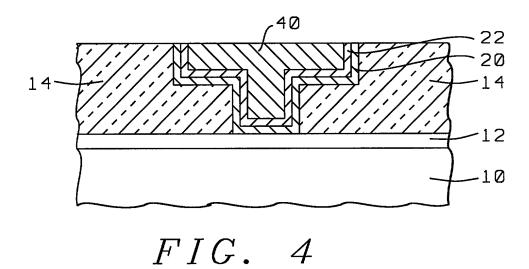
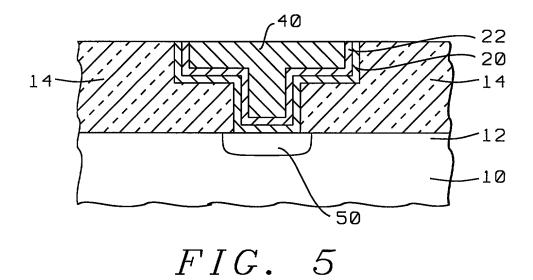
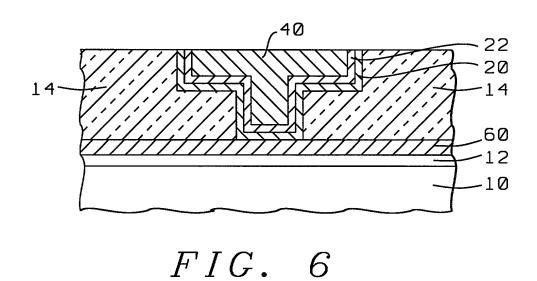


FIG. 3







COMPARISON OF SOFT AND HARD INTERFACE LAYER FOR 104-K DAMASCENE CU CMP	ERFACE LAYE	ER FOR low-	-k DAMASCENE Cu CMP
DAMASCENE FILM STACK	DISH/ RANGE(A)	EROSION/ RANGE(A)	COMMENT
SILK 5KA/PEOX 1KA/SiON 600A	311/199	499/321	low k + SOFT FILM+DARC
SILK 5KA/PE-TEOS 1KA/SiON 600A	211/232	236/343	low k + SOFT FILM+DARC
SILK SKA/SIN 1KA/SiON 600A	749/591	645/543	low k + HARD FILM+DARC
SILK 5KA/PEOX 500A+SIN500A/SiON 600A 659/588	659/588	595/424	10w K + SOFT&HARD FILM+DARC
SILK SKA/SIN500A+PEOX 500A/SiON 600A 681/594	681/594	587/478	10w k + HARD&SOFT FILM+DARC

FIG. 7

COMPARISON OF SOFT AND HARD INTERFACE LAYER FOR low-k DAMASCENE CU CMP	ERFACE LAYER FOR low-k	DAMASCENE CU CMP
DAMASCENE FILM STACK	Cu LINE DAMAGE/DEFECT	COMMENT
SILK 5KA/PEOX 1KA/SiON 600A	SOME DEFECT SPOTS	low k + SOFT FILM+DARC
SILK 5kA/PE-TEOS 1kA/SiON 600A	SOME DEFECT SPOTS	10w K + SOFT FILM+DARC
SILK 5KA/SIN 1KA/SiON 600A	NO DAMAGE AND DEFECT	NO DAMAGE AND DEFECT low k + HARD FILM+DARC
SILK SKA/PEOX 500A+SIN500A/SiON 600A NO DAMAGE AND DEFECT 10W K + SOFT&HARD FILM+DARC	NO DAMAGE AND DEFECT	10w K + SOFT&HARD FILM+DARC
SILK SKA/SIN500A+PEOX 500A/SiON 600A NO DAMAGE AND DEFECT low k + HARD&SOFT FILM+DARC	NO DAMAGE AND DEFECT	low k + HARD&SOFT FILM+DARC

FIG.8